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Advances in Soviet Metallurgy

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Tsarist Russia was 25 to 50 years behind leading countries in respect to the production of ferrous metals. The Russian metallurgical industry produced 4,216,000 tons of pig iron and 4,230,000 tons of steel in 1913. Such a level of production was attained by England in 1863, the United States in 1885 and Germany in 1891.

The productive capacity of Russian metallurgical plants which began falling immediately following the outbreak of World War I, declined more sharply during the period of intervention and civil war, so that, in 1920 production of pig iron and steel amounted to 2.7 and 4.6 percent, respectively, of the 1913 output. The Pre-World War I level of production of steel was not attained until 1928, and of pig iron, in 1929.

Many metallurgical plants with an output and technological standards equal to that of leading enterprises of the world were built during the First Five Year Plan. These plants had blast furnaces with a daily output of about 1500 tons of pig iron, open hearth furnaces with a 180 - 350 ton capacity, blooming mills which turned out 1,600,000 tons of ingots each, per year (output of the Kuznetsk Plant rolling mill was about 2 million tons of ingots per year), heavy duty plants which produced about 750,000 tons each per year, a continuous sheet rolling mill with a capacity of 800,000 sheets per year, cold rolling plants, tube-rolling mills designed by Mannesman and Stiefel, and other specialized plants.

In 1940, the eastern regions of the USSR produced steel at a rate 1.4 times greater than pre-revolutionary Russia did in 1913, coal at 1.7 times greater, and the production of metal working and chemical industries of eastern regions of the USSR was tens of times greater than the industries of Tsarist Russia.

By the end of the Second Five Year Plan (1937) Soviet

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metallurgy produced 2.5 million tons of specialized steels and satisfied all the needs for highly developed Soviet machine construction. The Soviets were surpassed only by the United States in the production of electric steel.

Eight years after reaching the pre-revolutionary level in the production of pig iron (1929), Soviet metallurgy attained a yearly output of 14.4 million tons of pig iron in 1937.

Prior to the German invasion, the Soviet Union level of production of pig iron was from 46 - 47 thousand tons and 58 - 59 thousand tons of steel daily. During the last pre war economic year (1940), 15 million tons of pig iron and 18.3 million tons of steel were produced. The southern regions, temporarily lost to the USSR during the war, produced 68 percent of the pig iron and 58 percent of the steel.

During the three years of war (1942 - 1944), 24 blast and 128 Martin furnaces, 4 Bessemer converters, 70 electric furnaces, 56 rolling mills and 67 coking ovens were put into operation in the ferrous metallurgical industries of the USSR.

Plants with a total annual capacity of about 9 million tons of metal were demolished by the Germans. To restore these enterprises will require about 700,000 man years and 1,500 million work hours. The Fourth Five Year Plan has proposed to turn out 19.5 million tons of pig iron, 25.4 million tons of steel and 17.8 million tons of rolled-iron. This is 10 percent less than the quantity planned before the war for the year 1942, and 35 percent more than was actually produced in 1940.

During the Fourth Five Year Plan it has been proposed to build and restore 45 blast furnaces with a capacity of 12.8 million tons of pig iron annually, 165 open-hearth furnaces, 15 converters and 90 electric furnaces with a total capacity of 16.2 million tons of steel, 104 rolling mills with a capacity 11.7 million tons of rolled-iron, 63 coke batteries capable of producing 19.1 million tons of coke

and iron mines with a capacity of 35.4 million tons of ore per year.

The Five Year Plan for restoring and developing the national economy is being carried out successfully. According to the Ministry of Metallurgical Industries USSR, the goal set for the third quarter of 1948 was fulfilled by 113 percent. The output of pig iron for the quarter, as compared with the third quarter of 1947, was improved by 15 percent, steel and rolled-iron by 25 and 26 percent, respectively. In previously occupied regions the output of pig iron was increased by 29 percent, steel by 63 percent and the production of rolled-iron by 35 percent.

Soviet engineering realized many brilliant achievements in restoring plants demolished by the Germans in the South. The pride of Soviet engineering is the restoration of the Zaporozhstal' Plant. This plant is the last word in metallurgic engineering, especially in sheet-rolling production. The continuous sheet-rolling mill and cold rolled sheet plants are very important to automobile manufacturing. Their rapid restoration was of great significance to the national economy.

The Fourth Five Year Plan calls for modernization as well as restoration of southern metallurgical plants. In order to increase the productivity of labor the Plan requires metallurgists to introduce, on a wide scale, mechanization of new and auxiliary processes in the restoration of plants.

I. V. Stalin in a speech before the electors of the Stalin Rayon of Moscow on 9 February 1946, stated that the goal for the next three Five Year Plans is to increase the annual level of production to 50 million tons of pig iron and 60 million tons of steel. It is the aim of the Soviets to obtain leadership in and the highest production of ferrous metallurgy in the entire world.